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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/752,608	12/27/2000	Albert S. Lui	CSCO-94301	1440

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EXAMINER	
JUNG, MIN	

ART UNIT	PAPER NUMBER
2663	3

DATE MAILED: 08/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/752,608	Applicant(s) LUI ET AL.	
	Examiner Min Jung	Art Unit 2663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 December 2000*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *16-23 and 40* is/are allowed.

6)☒ Claim(s) *1-8,12,24-27,29-31,33,35,38 and 39* is/are rejected.

7)☒ Claim(s) *9-11,13-15,28,32,34,36 and 37* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-7, 31, and 38 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, d), "said network packet" lacks antecedent basis.

In claim 4, "said data format" lacks antecedent basis, and it is not clear what is meant by "said data format is a numerical value".

In claim 5, it is not clear whether the "generating" step is performed at the source device or the target device.

In claim 31, "said element for generating said constant frequency signal" lacks antecedent basis. It seems that the claim was meant to be depending from claim 26 rather than claim 24, and thus, the claim was treated accordingly in applying prior art in the following paragraphs.

In claim 38, d), "said network packet" lacks antecedent basis.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 8, 12, 26, 31, and 39 are rejected under 35 U.S.C. 102(e) as being anticipated by Reynolds et al., US 6,574,225 (Reynolds).

Reynolds discloses a clock recovery in a packet based data network. Specifically, regarding claims 8, 12, 26, 31, and 39, Reynolds teaches a method for synthesizing and synchronizing a timing reference signal in a network, having the steps of : generating a constant frequency signal at a target device (slave node 108 including a controlled oscillator 160, Fig. 1); generating data representing the constant frequency signal (slave media time counter 146, col. 3, lines 56-59); receiving a network packet containing data representing a timing reference signal at the target device from a source device (slave transmission interface 126 receiving a packet including the latched value of the master media time counter, col. 3, lines 23-26); extracting the data representing the timing reference signal from the network packet (extracting the latched value of the master media time counter, col. 3, lines 23-26, and lines 59-62); comparing the data

representing the timing reference signal with the data representing the constant frequency signal (comparator 152, col. 3, lines 62-63); adjusting the constant frequency signal based on the comparison of the timing reference signal and the constant frequency signal (the difference from the comparison is used to control the CO 160 thereby attempting to lock on both the phase and frequency of the slave time counter to that of the master time counter, col. 3, line 64 – col. 4, line 5).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Reynolds.

Reynolds fails to specifically teach that the packet network may be implemented using Ethernet protocol. However, Ethernet is one of the most well known ways to implement a packet network in the data communication field, which is the field of the invention. Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to implement the packet network taught in Reynolds reference by using Ethernet protocol for the whole network or a part of the network since Ethernet is a well-known way to implement a packet network.

7. Claims 1, 2, 4-6, 24, 25, 27, 29, 33, 35, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nichols, US 6,363,073 ('073) over Nichols, US 6,721,328 ('328).

Nichols ('073) discloses a circuit and method for service clock recovery.

Regarding claims 1, 24, 33, 38, Nichols teaches representing timing signal as data for transmission in an asynchronous packet based network (source node 104 incorporates a signal into the data packet sent to destination node 100 that is used to recover the service clock at destination node 100, col. 3, line 64 – col. 4, line 2), receiving the network packet containing the timing signal at a target device (destination node 100 receives the packet for processing, col. 3, line 64 – col. 4, line 19), and producing a synthesized timing reference signal (the direct digital synthesis circuit 120 generates a synthesized timing reference signal, col. 4, lines 21-28), the synthesized timing reference signal being synchronized with the timing signal sent from the source device by reference to the transmitted data at the target device (the digital synthesis circuit generates a local service clock signal which is synchronized with the service clock of source node by using the RTS value, col. 4, lines 8-24, and col. 3, lines 47-53). Nichols also teaches the packet network 102 which couples the source device 104 with the target device 100. Nichols ('073), however, fails to teach receiving a timing signal at the source device. Nichols teaches source node including a service clock that is used to clock data packet transmission over the network 102. Receiving a timing signal from outside of a node is well known. Nichols ('328) shows service clock 101 providing timing information to the source node (Fig. 1). Therefore, it would have been obvious for one of

ordinary skill in the art at the time of the invention to make the system and method of Nichols ('073) by receiving a timing signal at a source node rather than generating one within the node for transmission across a packet network, as is shown by Nichols ('328) in order to separate the clocking source from a data source node.

Regarding claims 2, 27, 29, both of the Nichols references ('073 and '328) fail to specifically teach implementing the packet network as an Ethernet. However, Ethernet is one of the most well known ways to implement a packet network in the data communication field, which is the field of the invention. Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to implement the packet network taught in either of the Nichols reference by using Ethernet protocol for the whole network or a part of the network since Ethernet is a well-known way to implement a packet network.

Regarding claims 4 and 5, the Nichols references ('073) teach the numerical value being generated by a frequency counter (microcontroller 116 interpolates RTS values over a period of time to derive a number that is used to set the digital synthesis circuit 120, col. 5, lines 12-14).

Regarding claims 6 and 35, , Nichols fails to specifically teach the controlling of the packet transmission interval. However, the service clock at the source suggests that the clocking rate may be controlled either by an operator or by software. Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to implement the service clock so that the transmission interval or a transmission rate may

be adjusted to accommodate different type of data or to accommodate different network needs, etc.

Regarding claim 25, the combined teaching of Nichols ('073 and '328) teaches the source device claimed, and the same obviousness reasoning provided above for claims 1 applies, except for the limitations regarding "an element for controlling----" and "an element for extracting data-----". Regarding the limitation of "element for extracting data ----", it is inherent in Nichols that the source deice is capable of extracting data from other packets (received packets?) since the communication is bi-directional (col. 3, lines 54-63), and the source node would at least have the capability of extracting data from the packets received from the target device. Regarding the limitation of "an element for controlling----", Nichols (073) teaches a service clock at he source node. The service clock at the source suggests that the clocking rate may be controlled either by an operator or by software. Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to implement the service clock so that the transmission interval or a transmission rate may be adjusted to accommodate different type of data or to accommodate different network needs, etc.

Allowable Subject Matter

8. Claims 16-23, and 40 are allowed.

9. Claims 9-11, 13-15, 28, 32, 34, 36, and 37 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. Claims 3 and 7 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Gonzalez patent, the Cahill-O'Brien et al. patent, the Neumann et al. patent, the Hellum et al. patent, and the Dietrich patent are cited for further references.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Min Jung whose telephone number is 703-305-4363. The examiner can normally be reached on Monday-Friday, 7AM-3PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on 703-308-5340. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MJ
July 28, 2004

Min Jung
Primary Examiner